

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-22 (canceled)

Claim 23 (new): A reversible multicolor recording medium comprising a plurality of recording layers numbered from a first to a nth layer, which are formed on a supporting substrate side separately and independently in sequential order, said recording layers each containing a reversible thermal color developing composition differing from one another in hue of a developed color and further containing a light-heat converting composition which generates heat upon absorption of near infrared rays with a wavelength in different ranges, and said recording layers having respectively absorption peak wavelengths $\lambda_{\max 1}$, $\lambda_{\max 2}$, ..., $\lambda_{\max n}$, in a near infrared region such that $1500 \text{ nm} > \lambda_{\max 1} > \lambda_{\max 2} > \dots > \lambda_{\max n} > 750 \text{ nm}$.

Claim 24 (new): The reversible multicolor recording medium as defined in claim 23, wherein the reversible thermal color developing composition contains an electron-donating color developing compound and an electron-accepting developing-quenching agent and the recording layers reversibly take on a color-developed state and a color-quenched state due to a reversible reaction between the electron-donating color developing compound and the electron-accepting developing-quenching agent.

Claim 25 (new): The reversible multicolor recording medium as defined in claim 23, wherein the recording layer in quenched state thereof has a reflection density no higher than 0.6 at a developing peak wavelength.

Claim 26 (new): The reversible multicolor recording medium as defined in claim 24, wherein the nth recording layer that is positioned upward from the supporting substrate and that contains the light-heat converting composition has an absorbance of $\text{Abs.N}(\lambda)$ which satisfies a relation as follows:

$$1.5 > \text{Abs.N}(\lambda_N) > 0.6$$

$$\text{Abs.1}(\lambda_1) > 0.6$$

$$\text{Abs.N}(\lambda_{N-1}), \dots, \text{Abs.N}(\lambda_2), \text{Abs.N}(\lambda_1) < 0.2,$$

where $N = 2, 3, \dots, n$.

Claim 27 (new): The reversible multicolor recording medium as defined in claim 23, wherein the following relation is satisfied between the absorption peak wavelength ($\lambda_{\max 1}$, $\lambda_{\max 2}$, ..., $\lambda_{\max n}$) in near infrared region of the first to nth recording layers and an oscillation center wavelengths (λ_1 , ..., λ_n) associated with laser beams to be directed to each recording layer:

$$(\lambda_{\max N} - 15 \text{ nm}) < \lambda_N < (\lambda_{\max N} + 20 \text{ nm}),$$

where $N = 2, \dots, n$.

Claim 28 (new): The reversible multicolor recording medium as defined in claim 23, wherein the recording layer contains the light-heat converting composition and the reversible thermal color developing composition in a mixed state.

Claim 29 (new): The reversible multicolor recording medium as defined in claim 23, wherein the recording layer contains the light-heat converting composition and the reversible thermal color developing composition in a mutually separated state.

Claim 30 (new): The reversible multicolor recording medium as defined in claim 24, wherein the light-heat converting composition is separated by a resin binder.

Claim 31 (new): The reversible multicolor recording medium as defined in claim 23, wherein the top of the first to nth recording layers is covered with an upper recording layer which contains a reversible thermal color developing composition differing in hue from the first to nth recording layers and the upper recording layer does not contain the light-heat converting composition.

Claim 32 (new): The reversible multicolor recording medium as defined in claim 23, wherein the first to nth recording layers are formed in sequence on top of each other, with a heating insulating layer interposed between adjacent layers.

Claim 33 (new): The reversible multicolor recording medium as defined in claim 23, wherein the recording layers include two to four layers.

Claim 34 (new): The reversible multicolor recording medium as defined in claim 33, wherein the recording layers include four layers and each of the recording layers has a hue selected from yellow, cyan, magenta, and black.

Claim 35 (new): The reversible multicolor recording medium as defined in claim 33, wherein the recording layers include three layers and each of the recording layers has a hue selected from yellow, cyan, and magenta.

Claim 36 (new): The reversible multicolor recording medium as defined in claim 23, wherein a protective layer is formed on an uppermost surface of the recording layers.

Claim 37 (new): The reversible multicolor recording medium as defined in claim 23, wherein the light-heat converting composition contained in the second to nth recording layers, excluding the first recording layer adjacent to the supporting substrate, contains an organic dye.

Claim 38 (new): The reversible multicolor recording medium as defined in claim 37, wherein the organic dye is at least one species of a polymethine dye selected from the group consisting of phthalocyanine dye, naphthalocyanine dye, cyanine dye, squarilium dye, and croconium dye.

Claim 39 (new): A method for recording on a reversible multicolor recording medium, the method comprising irradiation with arbitrary selected laser beams having oscillation center wavelengths ($\lambda_1, \lambda_2, \dots, \lambda_n$) that range from 750 nm to 1500 nm, wherein said reversible multicolor recording medium has recording layers numbered from a first to a nth, which are formed on a supporting substrate side separately and independently in sequential order, wherein said recording layers each contain a reversible thermal color developing composition differing from one another in hue associated with a developed color and further containing a light-heat converting composition which generates heat upon absorption of near infrared rays with a wavelength in different ranges, and wherein said recording layers having

respectively an absorption peak wavelengths $\lambda_{\max 1}$, $\lambda_{\max 2}$, ..., $\lambda_{\max n}$, in a near infrared region such that $1500 \text{ nm} > \lambda_{\max 1} > \lambda_{\max 2} > \dots > \lambda_{\max n} > 750 \text{ nm}$.

Claim 40 (new): The method for recording on a reversible multicolor recording medium as defined in claim 39, wherein the laser beams are generated from a semiconductor laser source.

Claim 41 (new): The method for recording on a reversible multicolor recording medium as defined in claim 39, wherein the laser beams each have the oscillation center wavelengths ($\lambda_1, \lambda_2, \dots, \lambda_n$), which are separate from each other by more than 40 nm.

Claim 42 (new): The method for recording on a reversible multicolor recording medium as defined in claim 39, wherein a total number of the laser beams differing in the oscillation center wavelength is equal to a total number of the light-heat converting compositions which are contained in the first to nth recording layers so as to generate heat upon absorption of light in the mutually different regions of wavelength.

Claim 43 (new): The method for recording on a reversible multicolor recording medium as defined in claim 39, wherein the nth recording layer that is numbered upward from the supporting substrate and that contains the light-heat converting composition has an absorbance of $\text{Abs.N}(\lambda)$ and the laser beams for recording have the oscillation center wavelength ($\lambda_1, \lambda_2, \dots, \lambda_n$) such that a relation is satisfied as follows:

$$1.5 > \text{Abs.N}(\lambda_N) > 0.6$$

$$\text{Abs.1}(\lambda_1) > 0.6$$

$$\text{Abs.N}(\lambda_{N-1}), \dots, \text{Abs.N}(\lambda_2), \text{Abs.N}(\lambda_1) < 0.2,$$

$$\text{where } N = 2, 3, \dots, n.$$

Claim 44 (new): The method for recording on a reversible multicolor recording medium as defined in claim 39, wherein a relation is satisfied between the absorption peak wavelength ($\lambda_{\max 1}, \lambda_{\max 2}, \dots, \lambda_{\max n}$) in near infrared region of the first to nth recording layers and the oscillation center wavelengths ($\lambda_1, \lambda_2, \dots, \lambda_n$) of the laser beams as follows:

$$(\lambda_{\max N} - 15 \text{ nm}) < \lambda_N < (\lambda_{\max N} + 20 \text{ nm}),$$

where $N = 2, \dots, n$.